AMENDMENTS TO THE SPECIFICATION

Substitute specification

Please find attached a marked-up copy and a clean copy of the substitute specification. No new matter has been added. Kindly replace the specification with the clean substitute specification Attached.

Following the title, please insert the following new heading:
CROSS-REFERENCE TO PRIOR APPLICATION

Before paragraph [0001] please insert the following new paragraph:
[0000] The above-referenced application is the U.S. National Phase of International Patent Application PCT/EP2004/052519, filed October 13, 2004, which claims priority from German Application No. 103 56 826.3 , filed December 5, 2003, which is incorporated by reference herein. The International application was published in German on June 16, 2005 as WO 2005/054924 A1.

Before paragraph [0002] please insert the following new heading:
BACKGROUND

Before paragraph [0009] please insert the following new heading:
SUMMARY OF THE INVENTION

Please replace paragraph [0010] with the following rewritten paragraph:

[0010] ~~This object is achieved by~~ The present invention provides a scanning microscope ~~which is characterized in that the~~ in which an acousto-optical element spatially splits a sub-light beam from the illuminating light beam, and that beam guiding means are provided which direct the sub-light beam onto the sample, preferably to manipulate the same.

Please replace paragraph [0013] with the following rewritten paragraph:

[0013] In a ~~particularly~~ preferred embodiment, the acousto-optical element includes an AOTF (acousto-optical tunable filter).

Please replace paragraph [0020] with the following rewritten paragraph:

[0020] In a ~~very particularly~~ preferred embodiment variant, the acousto-optical element directs detection light emanating from the sample to a detector or a detector system, either indirectly or directly. In this case, the acousto-optical element additionally functions as an acousto-optical beam splitter, as is disclosed, for example, in DE 199 06 757 A1.

Please replace paragraph [0021] with the following rewritten paragraph:

[0021] In a ~~particularly~~ preferred variant, the scanning microscope is a confocal scanning microscope.

Before paragraph [0022] please insert the following new heading:

BRIEF DESCRIPTION OF THE DRAWINGS

Please replace paragraph [0022] with the following rewritten paragraph:

[0022] ~~The subject matter~~ Embodiments of the invention ~~is~~ are schematically illustrated in the drawings and will be described below with reference to the Figures, in which like reference numerals indicate like or functionally similar elements, and in which:

Before paragraph [0028] please insert the following new heading:

DETAILED DESCRIPTION

Please replace paragraph [0028] with the following rewritten paragraph:

[0028] FIG. 1 shows a scanning microscope according to the present invention, including a first light source 1 in the form of an argon-krypton laser and second light source 3 in the form of a helium-neon laser. First laser light 5 produced by light source 1 and second laser light 9 emitted by second light source 3 are combined by a dichroic beam splitter 7 into an illuminating light beam 11. An acousto-optical element 15 in the form of an AOTF 13 is disposed in the optical path of illuminating light beam 11 for adjusting the optical power of the illuminating light beam. The acousto-optical element splits a sub-light beam 16 from illuminating light beam 11, said sub-light beam being directed, via deflecting mirror 17, to a further beam deflection device 19 containing a further gimbal-mounted scanning mirror 21. Sub-light beam 16 passes from further beam deflection device 19 via a further deflecting mirror 23 to a dichroic beam deflector 26, which directs sub-light beam 16 through objective lens 25 onto sample 27 to manipulate the same. The remaining portion of the illuminating light beam is directed by a main beam splitter 29 to a beam deflection device 31 containing a gimbal-mounted scanning mirror 33. Beam deflection device 31 directs illuminating light beam 11 through ~~the~~ a scanning lens system ~~(not shown)~~ and ~~the~~ a tube lens system ~~(also not~~

~~shown)~~ and through objective lens 25, and scans said illuminating light beam over sample 27. Detection light 35 emanating from the sample travels back to beam deflection device 31 along the same light path, namely through objective lens 25, through the ~~not shown~~ scanning lens system and the ~~not shown~~ tube lens system, and, after passing through main beam splitter 29 and detection pinhole 37, strikes detection device 39, which produces electrical signals proportional to the power of the detection light. The electrical detection signals produced are transmitted to a processing unit 41, which displays an image of the sample on monitor 43 of a PC 46. Beam deflection device 31 and further beam deflection device 19 are controlled by processing unit 41 according to the input from the user. A $\lambda/2$ plate 45 is provided in the optical path of the first laser, said $\lambda/2$ plate allowing adjustment of the polarization ~~light~~ direction of light 5 emitted by the first laser. Similarly, a second $\lambda/2$ plate 47 is provided, as a polarization-controlling means 49, in the optical path of second laser 3 and used to adjust the polarization direction of light 9 emitted by the second laser. By rotating $\lambda/2$ plates 45, 47, the ratio of the optical power of sub-light beam 16 to the optical power of illuminating light beam 11 can be adjusted with respect to the respective light wavelength components emitted by the lasers.